Index for Volume 35 (1986)

COMPILED BY TROY L. BEST

Abies, 186
Acanthopoma bondi, 507
Acarinina, 184
Accipitridae, 239
Achatina fulica, 210
Achatinella, 206
  mustelina, 214
Acris, 1–21
  crepitans, 5–7, 10, 21
  gryllus, 5–7, 10, 21
Actitis macularia, 410
Adeloblarina, 160
Agonostomus monticola, 636
Alces, 236
  alces, 239
Allele frequencies, 1–21, 283–296, 297–310, 311–324
Alligator mississippiensis, 240
Allometry, 81–99, 359–368
Allozymes, 153–162, 283–296
Alluvisorex, 160
Alnus, 186, 187, 189
Ambloplites, 593
Amblycoptus, 160
Ambystoma, 129
Ambystomatidae, 124–134
Anabernicula, 463
Anacyclus, 479, 480, 486
  clavatus, 478
  homogamos, 478
  latealatus, 478
  linearilobus, 478
  maroccanus, 478
  monanthus, 478
  nigellifolius, 478
  pyrethrum, 478
  radiatus, 478
Analysis, 325–333
  character, 100–101, 102–109, 110–123, 400–413
  cladistic, 68–80, 100–101, 102–109, 110–123, 153–162, 509–531
  historical, 489–508
  phylogenetic, 1–21, 37–45, 68–80, 81–99, 102–109, 110–123, 124–134, 153–162, 230–240, 325–333, 445–457, 458–469, 532–551
  principal components, 311–324, 359–368
  UPGMA, 153–162
Analysis of quartet dissimilarity measures between undirected phylogenetic trees, William H. E. Day, 325–333
Anas, 459, 460
  platyrhynchos, 239
Anatidae, 458–469
Anchitherium, 186
Ancistrus, 492, 497, 502
  chagresi, 507
Aneides, 14, 533
  flavipunctatus, 463
Anisolepis, 511, 520
Anolis, 509–531
  aeneus, 515
  auratus, 521
  bimaculatus, 522
  biporcatus, 519, 521
  carolinensis, 521
  cuvieri, 522
  evermanni, 517
  extremus, 517
  gadovi, 515
  jacare, 515
  nebulosus, 516
  pentaprion, 515
  punctatus, 520
  roquet, 517
  stratulus, 517
Anoura geoffroyi, 197–201
Anourosorex, 153, 154, 160
Anotheca, 11
  spinosa, 8
ANOVA, 195–203
Antesorex, 159
Antherinidae, 176–194
Antilles, 633–639
Antilocapra, 236
  americana, 239
Antitropical, 176–194
Anura, 273–282, 283–296
Aotus, 236
  trivirgatus, 239
Aptenodytes
  forsteri, 240, 485
  patagonica, 240
Apteronotus, 507
Apteryx australis, 481
Aptycholaemus, 511, 520
Aquila chrysaetos, 239
Archachatina marginata, 210
Archaeohippus, 186
Arianta arbustorum, 205, 206, 208, 209
Artibeus, 237
  concolor, 197, 199, 200
  jamaicensis, 197–201, 239
  lituratus, 197–199, 201
Asinus, 239
Assessment of morphometric variation in natural

Index for Volume 35 (1986)

COMPILED BY TROY L. BEST

Abies, 186
Acanthopoma bondi, 507
Acarinina, 184
Accipitridae, 239
Achatina fulica, 210
Achatinella, 206
  mustelina, 214
Acris, 1–21
  crepitans, 5–7, 10, 21
  gryllus, 5–7, 10, 21
Actitis macularia, 410
Adeloblarina, 160
Agonostomus monticola, 636
Alces, 236
  alces, 239
Allele frequencies, 1–21, 283–296, 297–310, 311–324
Alligator mississippiensis, 240
Allometry, 81–99, 359–368
Allozymes, 153–162, 283–296
Alluvisorex, 160
Alnus, 186, 187, 189
Ambloplites, 593
Amblycoptus, 160
Ambystoma, 129
Ambystomatidae, 124–134
Anabernicula, 463
Anacyclus, 479, 480, 486
  clavatus, 478
  homogamos, 478
  latealatus, 478
  linearilobus, 478
  maroccanus, 478
  monanthus, 478
  nigellifolius, 478
  pyrethrum, 478
  radiatus, 478
Analysis, 325–333
  character, 100–101, 102–109, 110–123, 400–413
  cladistic, 68–80, 100–101, 102–109, 110–123, 153–162, 509–531
  historical, 489–508
  phylogenetic, 1–21, 37–45, 68–80, 81–99, 102–109, 110–123, 124–134, 153–162, 230–240, 325–333, 445–457, 458–469, 532–551
  principal components, 311–324, 359–368
  UPGMA, 153–162
Analysis of quartet dissimilarity measures between undirected phylogenetic trees, William H. E. Day, 325–333
Anas, 459, 460
  platyrhynchos, 239
Anatidae, 458–469
Anchitherium, 186
Ancistrus, 492, 497, 502
  chagresi, 507
Aneides, 14, 533
  flavipunctatus, 463
Anisolepis, 511, 520
Anolis, 509–531
  aeneus, 515
  auratus, 521
  bimaculatus, 522
  biporcatus, 519, 521
  carolinensis, 521
  cuvieri, 522
  evermanni, 517
  extremus, 517
  gadovi, 515
  jacare, 515
  nebulosus, 516
  pentaprion, 515
  punctatus, 520
  roquet, 517
  stratulus, 517
Anoura geoffroyi, 197–201
Anourosorex, 153, 154, 160
Anotheca, 11
  spinosa, 8
ANOVA, 195–203
Antesorex, 159
Antherinidae, 176–194
Antilles, 633–639
Antilocapra, 236
  americana, 239
Antitropical, 176–194
Anura, 273–282, 283–296
Aotus, 236
  trivirgatus, 239
Aptenodytes
  forsteri, 240, 485
  patagonica, 240
Apteronotus, 507
Apteryx australis, 481
Aptycholaemus, 511, 520
Aquila chrysaetos, 239
Archachatina marginata, 210
Archaeohippus, 186
Arianta arbustorum, 205, 206, 208, 209
Artibeus, 237
  concolor, 197, 199, 200
  jamaicensis, 197–201, 239
  lituratus, 197–199, 201
Asinus, 239
Assessment of morphometric variation in natural

populations: The inadequacy of the univariate approach, Michael R. Willig, Robert D. Owen, and Randall L. Colbert, 195–203
Astroblepidae, 490, 496, 498, 501, 504, 507
Astroblepus, 498
boulengeri, 496, 507
festae, 507
grixalvae, 507
longifillis, 507
simonsii, 507
Astyanax
bimaculatus, 507
fasciatus, 507
Ateles geoffroyi, 231, 239
Atherinopsinae, 176–194
Atractosteus tristoechus, 634
Australopithecus afarensis, 96
Avena, 327

Babel, 254–255
Balaenoptera, 236
acutorostrata, 239
Barbus
altianalis, 507
sachi, 507
Bassariscus, 239
Bathysiredon, 129
Batrachoseps, 533, 540, 546–548
Bats, 195–203
Belonesox, 637
Best, Troy L., Robert M. Sullivan, Joseph A. Cook, and Terry L. Yates, Chromosomal, genic, and morphologic variation in the agile kangaroo rat, *Dipodomys agilis* (Rodentia: Heteromyidae), 311–324
Betula, 186
Betulaceae, 187
Bioacoustics, 400–413
Biogeography, 37–45, 68–80, 153–162, 176–194, 509–531, 633–639
historical, 163–175, 369–380, 458–469
Biomechanics, 489–508
Biomolecular systematics of eutherian mammals: Phylogenetic patterns and classification, Michael M. Miyamoto and Morris Goodman, 230–240
Bipolar, 176–194
Bison, 236
bison, 239
bonasus, 239
Blarina, 153
brevicauda, 154, 156, 157, 159, 160, 162
carolinensis, 154, 156–158, 160, 162
Blarinella, 153, 154, 160
Blarinoides, 160
Bolitoglossa, 533, 546
Bos, 236
grunniens, 239
taurus, 239, 485
Botia macracanthus, 507
Bovidae, 236
Bradybaena fruticum, 208
Bradytriton, 533
Brantadorna, 463
Brazil, 195–203
Briggs (1984): Freshwater fishes and biogeography of Central America and the Antilles, comments on, Luis R. Rivas, 633–639
Brooks, Daniel R., John Collier, and E. O. Wiley, Definitions of terms and the essence of theories: A reply to J. S. Wicken, 640–647
Brooks, Daniel R., Richard T. O'Grady, and E. O. Wiley, A measure of the information content of phylogenetic trees, and its use as an optimality criterion, 571–581
Brundin, Lars Z., Evolution by orderly stepwise subordination and largely nonrandom mutations, 602–607
Bryant, Edwin H., On use of logarithms to accommodate scale, 552–559
Bucephala, 458
Bufo, 14
Buliminus, 211, 212, 214
Buteo buteo, 239
Bythitidae, 634

C-bands, 273–282
Cairina, 460
Calidris minutilla, 400–413
Callichthyidae, 490, 491, 493, 495, 501, 504, 505, 507
Callichthys callichthys, 507
Callithrix, 236
argentata, 239
jacchus, 239
jaccus, 485
Calyptahyla, 10
Cambarus bartoni, 360, 361, 363
Camelus, 236
dromedarius, 239
Caminalcules, 259–261
Camptolaimus, 458
Candidula intersecta, 206
Canis, 237
familiaris, 239, 485
Capanna, E., see Corti, M., —
Capra, 236
hircus, 239
Carcharius, 181
Carhubbsia, 637
Caribbean, 509–531
Carollia perspicillata, 197–199, 201
Carpiodes tumidus, 507
Carya, 186
Castanea, 186
Casuarius casuarius, 481
Catfishes, 489–508
Catharacta
antarcticus, 465
chilensis, 465
Cattus, 250
Caulolatilus, 181
Cavia porcellus, 239
Cebidae, 236
Cebus, 236
apella, 239
Celtis, 186
Central America, 633–639

Centrarchidae, 592–600
Cepaea
hortensis, 205–209
nemoralis, 205–207, 209, 210, 214, 216, 217
Ceratotherium simum, 239
Cercopithecidae, 236
Cercopithecus, 94, 236
aethiops, 239
Cerion, 209–211, 213, 218
uva, 206
Cervidae, 236
Cervus, 236
elephas, 239
Cetengraulis, 179
Chaenobryttus, 594
gulosus, 593
Chaetostoma, 500, 502, 503
Chamaeleolis, 509–531
Chamaelinorops, 509–531
Chanos chanos, 507
Character, 140–141
analysis, 100–101, 102–109, 110–123, 400–413
compatibility, 224–229
weighting, 100–101, 102–109, 110–123, 124–134
Character, on the term, P. Duarte Rodrigues, 140–141
Character weighting and cladistic analysis, Quentin D. Wheeler, 102–109
Cheilotrema, 181
Chelonia mydas, 240
Chelydra serpentina, 240
Cheverud, James M., and Joan T. Richtsmeier, Finite-element scaling applied to sexual dimorphism in rhesus macaque (*Macaca mulatta*) facial growth, 381–399
Chimarrogale, 153, 154
Chiroptera, 195–203
Chiropterotriton, 533
priscus, 546
Chloephaga, 459, 463
Chloritis argillacea, 206
Chodsigoa, 153, 154
Choloepus hoffmanni, 239
Chondrula tridens, 206
Chonophorus taiasica, 636
Chromosomal
evolution, 46–67, 334–358
fusion, 163–175
polymorphism, 334–358
speciation, 334–358
Chromosomal, genic, and morphologic variation in the agile kangaroo rat, *Dipodomys agilis* (Rodentia: Heteromyidae), Troy L. Best, Robert M. Sullivan, Joseph A. Cook, and Terry L. Yates, 311–324
Chromosomes,
frog, 273–282
house mouse, 163–175
kangaroo rat, 311–324
lizard, 334–358
Chrysemys picta, 360
Cichlasoma, 636, 638
haitiensis, 634
ramsdeni, 634,
tetracanthus, 634, 637
vombergi, 634
Cichlidae, 634
Cladistic
methods, 68–80, 325–333
synthesis, 37–45
Cladistic relationships among anoles (Sauria: Iguanidae), Craig Cuyer and Jay M. Savage, 509–531
Cladistics, 100–101, 102–109, 110–123, 153–162, 509–531
Clark, Curtis, and Daniel J. Curran, Outgroup analysis, homoplasy, and global parsimony: A response to Maddison, Donoghue, and Maddison, 422–426
Clark, Curtis, Homoplastic—An appropriate choice, 142–143
Clausilia bidentata, 206
Cnemidophorus, 439
angusticeps, 428, 430
burti, 432, 435
costatus, 430, 432, 435
cozumela, 427, 428, 430, 433, 437
deppei, 427, 428, 430
dixoni, 428, 430, 434, 435, 437, 438
exsanguis, 427, 428, 430, 437
flagellicaudus, 428, 430, 436, 437
gularis, 428–435
inornatus, 428, 430, 433, 435, 437
laredoensis, 428–430, 432, 436, 437
lemniscatus, 427
maslini, 434
neomexicanus, 427–430, 433, 437
opatae, 428, 430, 434, 437
perplexus, 437
rodecki, 428, 430, 433, 434, 437
sacki, 428
scalaris, 431
septemvittatus, 429–432, 434, 435
sexlineatus, 428, 429, 430, 434, 435
sonorae, 428, 430, 437
stictogrammus, 432
tesselatus, 427–430, 434–437
tigris, 429, 430, 432, 434
uniparens, 428–430, 433, 434, 437
velox, 427, 428, 430, 434, 437
Coccolithus pelagicus, 184, 185
Cochlicella acuta, 206
Colbert, Randall L., see Willig, Michael R., —
Collier, John, see Brooks, Daniel R., —
Comparing trees, 325–333
Compatibility, 163–175
Components of variation in nuptial calls of the least sandpiper (*Calidris minutilla*; Aves, Scolopacidae), Edward H. Miller, 400–413
Computational complexity of inferring phylogenies by compatibility, William H. E. Day and David Sankoff, 224–229
Computer model, 445–457
Configurational entropy, 22–36
Consensus
indices, 582–590
tree, 230–240
Convergence, 102–109

Convex, 560–570
Cook, Joseph A., see Best, Troy L., —
Corti, M., E. Capanna, and G. F. Estabrook, Micro-evolutionary sequences in house mouse chromosomal speciation, 163–175
Corvus corone, 240
Corydoras, 493
  aeneus, 495, 507
  paleatus, 507
  punctatus, 507
Cottus
  klamathensis, 249, 250
  pitensis, 249, 250
Creel, Norman, Size and phylogeny in hominoid primates, 81–99
Cricetidae, 236
Cricosaura, 37, 39–43
Critique of the theory and methods of panbiogeography, a, Ole Seberg, 369–380
Crocidosorex, 159, 160
  piveteaui, 153
Crocidura
  horsfieldi, 154, 156, 157
  russula, 154, 156, 157, 162
Crocidurinae, 153–162
Crotalus atrox, 2
Crother, Brian I., Michael M. Miyamoto, and William F. Presch, Phylogeny and biogeography of the lizard family Xantusiidae, 37–45
Cryptotis, 153, 160
  parva, 154, 156–159, 162
Ctenonotus, 509, 522–524
  bimaculatus, 529
  cristatellus, 528
  dictichus, 525
Cubanichthys
  cubensis, 634
  pengelleyi, 634
Curran, Daniel J., see Clark, Curtis, and —
Curtipenis, 635
  elegans, 634
Cygnus olor, 239
Cyprinidae, 592–600
Cyprinodon
  bondi, 634
  laciniatus, 634
  variegatus, 634, 637
Cyprinodontidae, 634
Cyprinus carpio, 240
Cytogenetics, 46–67

Dactyloa, 509, 520–526, 528, 529
Dasypus novemcinctus, 239
Day, William H. E., Analysis of quartet dissimilarity measures between undirected phylogenetic trees, 325–333
Day, William H. E., and David Sankoff, Computational complexity of inferring phylogenies by compatibility, 224–229
Definitions of terms and the essence of theories: A reply to J. S. Wicken, Daniel R. Brooks, John Collier, and E. O. Wiley, 640–647
Delphinus delphis, 485
Dendrotriton, 533
Denticles, 204–223
Depauperate phylads, 591–602
Deriving phylogenetic trees from allele frequencies: A comparison of nine genetic distances, James S. Rogers, 297–310
Desmodus rotundus, 197–201
Desmognathus, 533, 542
Diceratherium, 186
Didelphis marsupialis, 239, 485
Diodon, 386
Diplommatina, 206, 217
  nevilli, 208
Diplomystes, 493, 498
  viedmensis, 507
Diplomystidae, 490, 507
Dipodomys
  agilis, 311–324
  antiquarius, 311, 312, 320, 323
  elator, 316
  gravipes, 311–324
  merriami, 311–324
  nitratoides, 316
  panamintinus, 316
  paralius, 311, 312, 323
  peninsularis, 311, 312, 323
Directional autocorrelation: An extension of spatial correlograms to two dimensions, Neal L. Oden and Robert R. Sokal, 608–616
Discula polymorpha, 215
Discus rotundatus, 213, 214, 216
Dispersal,
  postglacial, 68–80
Dissimilarity measure, 325–333
Distance,
  genetic, 1–21, 279–310
Distance-Wagner, 153–162
Distichodus rostratus, 507
Divergence, 283–296
Doradidae, 507
Dromaius novaehollandiae, 481
Drosophila buzzatii, 615

Echinoderms, Babel and the confusion of nomenclature, Malcolm Telford and Rich Mooi, 254–255
Echinometra, 254
Echinorhinus, 181
Echinus, 254
Eigenmannia virescens, 507
Elassoma, 594
Eldredge, Niles, see Gould, Stephen Jay, and —
Electrophoresis, 1–21, 153–162, 283–296, 311–324
Electrophoretic analysis of Holarctic hylid frog evolution, an, S. Blair Hedges, 1–21
Elephas maximus, 239
Ena obscura, 206
Engraulis, 179
Enneacanthus, 593
Ensatina, 533, 539, 546, 547
Entropy and evolution: Ground rules for discourse, Jeffrey S. Wicken, 22–36
Ephedra, 187
Epochra canadensis, 305

Eptesicus furinalis, 197, 199
Equus, 236
  asinus, 239
  burchelli, 485
  caballus, 239, 485
  hemionus, 239
Eremina
  hasselquisti, 206
  irregularis, 206, 215
Ericaceae, 187
Erinaceus, 236, 237
  europaeus, 239, 485
Erythrocebus, 236
  patas, 239
Eschrichtius, 236
  robustus, 239
Estabrook, G. F., see Corti, M., —
Estabrook, George F., Evolutionary classification using convex phenetics, 560–570
Estimating uncertainty in evolutionary trees from Manhattan-distance triads, P. H. A. Sneath, 470–488
Etheostoma
  euzonum, 598
  kanawhae, 598
  osburni, 598
  tetrazonum, 598, 599
  variatum, 598
Euphrasia, 371
Eurycea, 533, 545, 546
Eutaenia pulchrilatus, 421
Eutheria, 230–240
Evolution, 22–36
Evolution and historical biogeography of soricine shrews, Sarah B. George, 153–162
Evolution by orderly stepwise subordination and largely nonrandom mutations, Lars Z. Brundin, 602–607
Evolution of *Sceloporus grammicus* complex (Sauria: Iguanidae) in central Mexico: Population cytogenetics, Calvin A. Porter and Jack W. Sites, Jr., 334–358
Evolutionary classification using convex phenetics, George F. Estabrook, 560–570
Evolutionary
  morphology, 489–508, 532–551
  relationships, 273–282, 283–296
  tree, 224–229, 325–333
Experimental error, 470–488

Facial growth, 381–399
Fagus, 186–189
Feeding mechanisms, 489–508
Felis catus, 239
Felsenstein, Joseph, and Elliott Sober, Parsimony and likelihood: An exchange, 617–626
Finite-element scaling applied to sexual dimorphism in rhesus macaque (*Macaca mulatta*) facial growth, James M. Cheverud and Joan T. Richtsmeier, 381–399
Fishes, 633–639
  catfishes, 489–508
  freshwater, 68–80
Flightlessness, 458–469
Floridichthys carpio, 637
Form, 204–223
Frogs, 1–21, 273–282, 283–296
Fuligula, 458
Fundulus
  confluentus, 637
  grandis, 634, 637
  similis, 637
Funk, Vicki A., and Quentin D. Wheeler, Symposium: Character weighting, cladistics, and classification, 100–101

Galago, 236
  crassicaudatus, 239, 485
Galeorhinus, 181
Gallirallus australis/troglodytes, 373
Gallus gallus, 239, 485
Gambusia
  affinis, 637
  baracoana, 634
  beebi, 634
  bucheri, 634
  hispaniolae, 634
  melapleura, 634
  monticola, 634
  pseudopunctata, 634
  punctata, 634, 637
  puncticulata, 634, 637
  rhizophorae, 634, 637
  wrayi, 634
  xanthosoma, 634
Gangamopteris, 370
Gastropod, 204–223
Gehyra, 46–67
  australis, 46, 49, 58–61, 64, 65
  minuta, 47, 66
  montium, 47, 49, 60, 66
  nana, 47, 49, 66
  oceanica, 49, 51, 52, 54, 55, 59, 60, 67
  pamela, 64
  pilbara, 47
  punctata, 46, 47, 49, 51, 52, 55, 56, 59–61, 64–66
  purpurescens, 47, 51, 58, 60, 62, 64, 65
  robusta, 61
  variegata, 46, 47, 49, 51, 52, 55, 56, 59–61, 64–66
  variegata-punctata, 350
  vorax, 49
Gekkonidae, 46–67, 350
Genetic
  correlation, 124–134
  distance, 1–21, 297–310
Geographic variation,
  kangaroo rat, 311–324
  least sandpiper, 400–413
George, Sarah B., Evolution and historical biogeography of soricine shrews, 153–162
Gingko, 187
Giraffa, 236
Girardinus
  creolus, 634
  cubensis, 634
  denticulatus, 634, 637

falcatus, 634, 637
metallicus, 634, 635, 637
microdactylus, 634
serripenis, 634
uninotatus, 634, 635, 637
Glaciation, 458–469
Gleicheniaceae, 187
Global parsimony, 422–426
Globigerinatheka, 184
Globorotalia cerroazulensis, 184
Glossophaga soricina, 197–201
Glossopteris, 370
Gonorhynchus abbreviatus, 507
Goodfriend, Glenn A., Variation in land-snail shell form and size and its causes: A review, 204–223
Goodman, Morris, see Miyamoto, Michael M., and —
Gorilla, 236
gorilla, 82, 239, 485
Gould, Stephen Jay, and Niles Eldredge, Punctuated equilibrium at the third stage, 143–148
Gradual evolution, 591–602
Green, David M., Systematics and evolution of western North American frogs allied to *Rana aurora* and *Rana boylii*: Electrophoretic evidence, 283–296
Green, David M., Systematics and evolution of western North American frogs allied to *Rana aurora* and *Rana boylii*: Karyological evidence, 273–282
Gulella, 210
Guyer, Craig, and Jay M. Savage, Cladistic relationships among anoles (Sauria: Iguanidae), 509–531
Gyrinophilus, 533, 545

Haideotriton, 533
Halichoerus grypus, 239
Hantkenina, 184
Hedges, S. Blair, An electrophoretic analysis of Holarctic hylid frog evolution, 1–21
Helicella itala, 206
Helix
cincta, 206
pomatia, 208, 216
Hemidactylium, 533, 539, 542, 545–547
Hemidoras carinotus, 507
Henonemus, 493, 494, 507
Heptranchias, 181
Hesperosorex, 160
Heterandria, 637
Heterochrony, 445–457
Heterodontus, 181
portusjacksoni, 240
Heteromyidae, 311–324
Hexanchus, 181
Hippopotamus, 236
amphibius, 239
Historical biogeography, 163–175, 369–380, 458–469
Historical transformation of functional design: Evolutionary morphology of feeding mechanisms in loricarioid catfishes, Scott A. Schaefer and George V. Lauder, 489–508
Holman, Eric W., A taxonomic difference between the Caminalcules and real organisms, 259–261
Hominidae, 236
Hominoid phylogeny, 81–99
Homo, 236
sapiens, 82, 87, 239, 244, 245, 485
Homologous-point measures in systematics: A reply to Bookstein et al., comment on uses of, Dwight W. Read and Pete E. Lestrel, 241–253
Homoplastic--An appropriate choice, Curtis Clark, 142–143
Homoplasy, 102–109, 422–426
Hoplias malabaricus, 507
Hoplosternum magdalenae, 507
Hybridization,
house mouse, 163–175
Hydromantes, 533, 546
Hyla, 1–21
andersoni, 6, 10, 11, 21
arborea, 5–7, 10–12, 21
arenicolor, 6, 9, 11, 21
avivoca, 6, 8, 21
cadaverina, 5, 6, 8, 9, 11, 21
chrysoscelis, 6, 11, 21
cinerea, 6, 10, 11, 13, 21
crucifer, 5, 6, 8, 10, 11, 14, 21
elaeochroa, 11
euphorbiacea, 8, 11
eximia, 6, 8–11, 21
femoralis, 6, 11, 21
gratiosa, 6, 11, 13, 21
hazalae, 11
heilprini, 10
japonica, 6, 7, 11, 21
meridionalis, 6–8, 10, 11, 21
ogechiensis, 6, 21
plicata, 8, 11
pseudopuma, 11
regilla, 4–6, 8–11, 14, 21
savignyi, 8
siopela, 11
squirella, 6, 11, 13, 21
staufferi, 11
versicolor, 1, 6, 11, 21
walkeri, 11
Hylidae, 1–21
Hylobates, 233, 236
agilis, 239, 485
concolor, 82
hoolock, 82
klossii, 82, 93
lar, 82, 239
syndactylus, 82, 88
Hyopsodus, 144
Hypopomus artedi, 507
Hypostomus madierae, 507

Iberus
gualtierianus, 215
rositai, 215
Iguana, 517
Iguanidae, 334–358, 509–531
Immunology, 509–531
Information theory, 22–36, 571–581
Isthmian link, antitropicality and American biogeog-

raphy: Distributional history of the Atherinopsinae (Pisces: Atherinidae), the, Brian N. White, 176–194

Joturus pichardi, 636
Juglandaceae, 187
Juglans, 186, 189
Junco hyemalis, 413

Kangaroo rat, 311–324
Karyology, 37–45, 509–531
Karyotypic variability, 163–175, 273–282, 311–324, 334–358
Klauberina, 37, 39–43
Kornet, Diedel, see Wiley, E. O., and —
Kremen, Claire, see Nijhout, H. Frederik, —

Laciniaria biplicata, 206
Lagostomus maximus, 239
Lagothrix lagothricha, 231, 239, 485
Lakatos' philosophy of science, 369–380
Lama, 236
  glama, 239
  vicugna, 239
Lamna, 181
Lasiurus borealis, 200
Lauder, George V., see Schaefer, Scott A., and —
Least sandpiper, 400–413
Legendre, Pierre, Reconstructing biogeographic history using phylogenetic-tree analysis of community structure, 68–80
Legendre, Pierre, Report on Nineteenth International Numerical Taxonomy Conference, 135–139
Leiopelma, 377
Lemur fulvis, 239
Lemuridae, 233, 236, 239
Leo leo, 239
Lepidophyma, 37, 39–43
Lepilemur mustelinus, 239, 485
Lepisosteidae, 634
Lepomis, 592, 594–596, 600
  gulosus, 593
Leptotyphlops goudotii, 421, 422
Lestrel, Pete E., see Read, Dwight W., and —
Leucocyclus, 478, 479
Leurognathus, 533
Levantina
  caesareana, 206
  gyrostoma, 215
  spiriplana, 206, 214, 215
Likelihood, 617–626
Limia, 635
  caymanensis, 634
  dominicensis, 634
  fuscomaculata, 634
  garnieri, 634
  grossidens, 634
  immaculata, 634
  melanogaster, 634
  melanonotata, 634
  migrofasciata, 634
  miragoanensis, 634
  ornata, 634
  pauciradiata, 634
  perugiae, 634
  rivasi, 634
  sulphurophila, 634
  tridens, 634
  versicolor, 634
  vittata, 634, 637
  yaguajali, 634
  zonata, 634
Limicolaria, 216
  martensiana, 206
Limnaoedus, 1–21
  ocularis, 2, 5, 6, 8, 9, 11, 21
Limnodromus
  griseus, 404
  scolopaceus, 404
Lineatriton, 533
Liquidambar, 186–189
Liriodendron, 186
Livezey, Bradley C., Phylogeny and historical biogeography of steamer-ducks (Anatidae: *Tachyeres*), 458–469
Logarithms, 552–559
Lombard, R. Eric, and David B. Wake, Tongue evolution in the lungless salamanders, Family Plethodontidae IV. Phylogeny of plethodontid salamanders and the evolution of feeding dynamics, 532–551
Lonchophylla mordax, 197–200
Long, Jeffrey C., see Smouse, Peter E., —
Lophiodolodus, 186
Lophonetta, 459, 460
Loricariidae, 490, 491, 497, 498, 501, 504, 507
Loricarioid catfishes, 489–508
Loriculus, 376
Lorisidae, 233, 236
Loxodonta africana, 239
Lucania parva, 637
Lucifuga
  dentatus, 634
  spelaeotes, 634
  subterraneus, 634
Lycaon pictus, 485

Macaca, 236
  fascicularis, 232, 239, 485
  fuscata, 232, 239
  mulatta, 232, 239, 381–399
Macropus
  giganteus, 239
  rufus, 239
Maddison, Donoghue, and Maddison, 422–426
Manhattan distance, 470–488
Manis javanica, 232, 233, 239
MANOVA, 195–203
Mantel test, 627–632
Marmorana
  muralis, 215
  villica, 215
Maximum parsimony, 230–240
Mayden, Richard L., Speciose and depauparate phylads and tests of punctuated and gradual evolution: Fact or artifact?, 591–602

Measure of resolution, 325–333
Measure of the information content of phylogenetic trees, and its use as an optimality criterion, a, Daniel R. Brooks, Richard T. O'Grady, and E. O. Wiley, 571–581
Megaleia rufa, 485
Megasorex, 153, 155
gigas, 154, 156–158, 160, 162
Melanitta, 458
Meles meles, 239, 485
Melursus ursinus, 239
Menidiinae, 176–194
Merganetta, 460
armata, 459
Mergus, 460
Merycoidodontidae, 186
Mesocricetus, 236
auratus, 239
Metachatina kraussi, 210
Methods,
cladistic, 68–80
phylogenetic, 81–99
phylogenetic inference, 68–80
tree-reconstruction, 68–80
Microevolutionary sequences in house mouse chromosomal speciation, M. Corti, E. Capanna, and G. F. Estabrook, 163–175
Micronycteris megalotis, 197, 199
Micropterus, 458, 593
Miller, Edward H., Components of variation in nuptial calls of the least sandpiper (*Calidris minutilla*; Aves, Scolopacidae), 400–413
Minimum-length trees, 297–310
Miniopterus, 237
schreibersi, 239
Mirounga leonina, 239
Miyamoto, Michael M., and Morris Goodman, Biomolecular systematics of eutherian mammals: Phylogenetic patterns and classification, 230–240
Miyamoto, Michael M., see Crother, Brian I., —
Molecular clock, 1–21
Molossus molossus, 197–201
Mooi, Rich, see Telford, Malcolm, and —
Moritz, Craig, The population biology of *Gehyra* (Gekkonidae): Chromosome change and speciation, 46–67
Morozovella, 184
Morphology, 37–45, 81–99, 552–559
Morphometric variation, 195–203, 311–324
Multiple regression and correlation extensions of the Mantel test of matrix correspondence, Peter E. Smouse, Jeffrey C. Long, and Robert R. Sokal, 627–632
Multivariate allometry and removal of size with principal components analysis, Keith M. Somers, 359–368
Multivariate statistics, 195–203
Murella muralis, 205, 215
Muridae, 236
Mus, 236
domesticus, 163–175
musculus, 62, 239, 353
Musca domestica, 552
Mustela vison, 239
Mustelidae, 237, 239
Mustelus, 181
Mylopharodon, 594
Myotis nigricans, 197–199, 201
Myrica, 186, 189

Natural populations, 195–203
Nectogale, 153, 154
Neff, Nancy A., A rational basis for a priori character weighting, 110–123
Nematogenyidae, 490, 507
Nematogenys, 492, 493, 498
inermis, 507
Neochen, 459, 463
Neomys, 153, 155, 160, 161
fodiens, 154, 156–159, 162
Neoplatymops mattogrossensis, 197–200
Neoteny, 81–99
Nesotrochis debooyi, 373
Netta, 460
Nijhout, H. Frederik, Gregory A. Wray, Claire Kremen, and Carolyn K. Teragawa, Ontogeny, phylogeny and evolution of form: An algorithmic approach, 445–457
Noctilio leporinus, 197–199
Nomenclatural name-forms, Hobart M. Smith and Gonzalo Pérez-Higareda, 421–422
Nonrandom mutations, 602–607
Norops, 509, 521–523, 525, 526
grahami, 528
sagrai, 529
Notiosorex, 153, 155, 160
crawfordii, 154, 156–159, 162
Notoprocta curvirostris, 481
Notorhynchus, 181
Nototriton, 533
Notropis, 592–594, 596, 600
megalepis, 595
spilopterus, 507
NP-complete, 224–229
Numerical taxonomy, 582–590
Numerical Taxonomy Conference, 135–139
Nyctanolis, 533
Nycticebus, 236
coucang, 239, 485
Nyctimantis, 11
Nyssa, 186–189

Ochotona princeps, 239
Oden, Neal L., and Robert R. Sokal, Directional autocorrelation: An extension of spatial correlograms to two dimensions, 608–616
Oedipina, 533
O'Grady, Richard T., see Brooks, Daniel R., —
Oidemia, 458
Oleaceae, 187
Ondatra, 236
zibethicus, 239
Ontogeny, 445–457, 552–559
Ontogeny, phylogeny and evolution of form: An algorithmic approach, H. Frederik Nijhout, Greg-

ory A. Wray, Claire Kremen, and Carolyn K. Teragawa, 445–457
Operational evolutionary classification, 560–570
Ophisternon aenigmaticum, 634
Optimality criteria, 571–581
Opuntia, 348
Ornithogalum, 138
Ornithorhynchus anatinus, 239
Orthagoriscus mola, 386
Orthogeny, 369–380
Orycteropus afer, 239
Oryctolagus cuniculus, 239
Osteology, 509–531
Osteopilus, 10
Otala, 212
Outgroup analysis, homoplasy, and global parsimony: A response to Maddison, Donoghue, and Maddison, Curtis Clark and Daniel J. Curran, 422–426
Ovis, 236
aries, 239, 485
Owen, Robert D., see Willig, Michael R., —
Oxyura, 460

Palaina, 206, 214
Pan, 236
paniscus, 82, 88
troglodytes, 82, 239, 485
Panaque, 502, 503
Panbiogeography, 369–380
Papio, 236
anubis, 485
cynocephalus, 239
Parsimony, 297–310, 617–626
Parsimony and likelihood: An exchange, Joseph Felsenstein and Elliott Sober, 617–626
Parthenogenetic species, 427–440
Partula, 205
otaheitana, 212, 214
suturalis, 217
Parvimolge, 533
Passerine birds, 255–259
Patagonia, 458–469
Pérez-Higareda, Gonzalo, see Smith, Hobart M., and —
Perforatella incarnata, 206
Perodicticus potto, 485
Peropteryx macrotis, 197–200
Phaeognathus, 533, 542
Phalacrocorax
albiventer, 465
atriceps, 465
Phallichthys, 637
Phenacosaurus, 509–531
Phenetics, 560–570
Phoca vitulina, 239, 485
Phocaena phocaena, 485
Phocidae, 237, 239
Phocoena, 236
phocoena, 239
Phyllostomus
discolor, 197–201
hastatus, 197–200
Phylogenetic, 102–109, 110–123, 458–469
classification, 153–162, 230–240
inference, 224–229
methods of, 68–80
trees, 325–333, 470–488, 571–581
Phylogeny, 1–21, 37–45, 81–99, 325–333, 445–457, 458–469, 532–551
reconstruction, 124–134
Phylogeny and biogeography of the lizard family Xantusiidae, Brian I. Crother, Michael M. Miyamoto, and William F. Presch, 37–45
Phylogeny and historical biogeography of steamer-ducks (Anatidae: *Tachyeres*), Bradley C. Livezey, 458–469
Physter catodon, 485
Picea, 186, 187
Picoides, 413
Picumnus, 374
Pinus, 187
sylvestris, 609
Plectrohyla, 11
Pleiotropy, 445–457
Pleistocene, 458–469
Plethodon, 533
Plethodontidae, 532–551
Pleurodonte
acuta, 206
lucerna, 206, 211, 212, 214–216, 218
Poecilia, 635, 638
dominicensis, 634
hispaniolana, 634
latipinna, 637
Poeciliidae, 634
Poecilozonites, 214–216
Polypodiaceae, 187
Polysticta, 458
Pomoxis, 593, 594
Pongo, 233, 236
pygmaeus, 82, 88, 239
Population biology of *Gehyra* (Gekkonidae): Chromosome change and speciation, the, Craig Moritz, 46–67
Population cytogenetics, 334–358
Populus, 186
Porter, Calvin A., and Jack W. Sites, Jr., Evolution of *Sceloporus grammicus* complex (Sauria: Iguanidae) in central Mexico: Population cytogenetics, 334–358
Post, Thomas J., see Uzzell, Thomas, and —
Presbytis, 236
entellus, 239
Presch, William F., see Crother, Brian I., —
Principal components analysis, 359–368
Proadinotherium, 186
Procavia capensis, 239
Procyon lotor, 239
Procyonidae, 237, 239
Protein sequences, 230–240
Protheosodon, 186
Pseudacris, 1–21
brachyphona, 6, 7, 11, 21
brimleyi, 6, 11, 21
cadaverina, 11

clarki, 6, 11, 21
crucifer, 11
feriarum, 6, 11, 21
illinoensis, 6, 21
kalmi, 6, 21
nigrita, 6, 11, 21
ornata, 6, 11, 14, 21
regilla, 11
streckeri, 5, 6, 11, 21
triseriata, 6, 7, 11, 21
Pseudoeurycea, 533
Pseudostegophilus nemurus, 507
Pseudotriton, 533, 546
Punctuated equilibrium at the third stage, Stephen Jay Gould and Niles Eldredge, 143–148
Punctuated evolution, 591–602
Pygoscelis papua, 240

Quantitative
ethology, 400–413
genetics, 124–134, 552–559
Quintana atrizona, 634

Raikow, Robert J., Why are there so many kinds of passerine birds?, 255–259
Rana, 14
amurensis, 414
arvalis, 414
aurora, 273–282, 283–296, 414, 417, 419, 420
boylii, 273–282, 283–296, 414–421
cascadae, 273–282, 283–296
catesbeiana, 240, 294, 419
dalmatina, 414
dybowskii, 283–296
esculenta, 240
japonica, 294, 414
lessonae, 419, 420
muscosa, 273–282, 283–296, 414, 417, 419, 420
pipiens, 277, 419
pretiosa, 273–282, 283–296
pustulosa, 273–283
sinaloae, 273, 283
sylvatica, 273, 274, 285–294, 419
tarahumarae, 273, 283, 293
temporaria, 273, 274, 283–296, 414–421
virgatipes, 294
Rana temporaria is not a member of the *Rana boylii* group, Thomas Uzzell and Thomas J. Post, 414–421
Ranidae, 273–282, 283–296
Rational basis for a priori character weighting, a, Nancy A. Neff, 110–123
Rattus, 62, 236
norvegicus, 239
rattus, 167
villosissimus, 167
Read, Dwight W., and Pete E. Lestrel, Comment on uses of homologous-point measures in systematics: A reply to Bookstein et al., 241–253
Reconstructing biogeographic history using phylogenetic-tree analysis of community structure, Pierre Legendre, 68–80
Report on Nineteenth International Numerical Taxonomy Conference, Pierre Legendre, 135–139
Rhea americana, 239, 481
Rhesus macaque, 381–399
Rhinocerotidae, 236, 239
Rhogeessa, 62, 350
Rhyacosiredon, 129
Richtsmeier, Joan T., see Cheverud, James M., and —
Rivas, Luis R., Comments on Briggs (1984): Freshwater fishes and biogeography of Central America and the Antilles, 633–639
Rivulus
cylindraceus, 634, 637
garciai, 634, 637
heyei, 634
insulaepinorum, 634
marmoratus, 634, 637
roloffi, 634
Rodrigues, P. Duarte, On the term character, 140–141
Rogers, James S., Deriving phylogenetic trees from allele frequencies: A comparison of nine genetic distances, 297–310
Rosenberg, Alexander, The structure of biological science (rev.), 262–265
Rossmaessleria subscabriuscala, 215
Rousettus, 237
aegypticus, 239

Saimiri sciureus, 485
Salvelinus fontinalis, 76
Sampling error, 470–488
Sankoff, David, see Day, William H. E., and —
Sauria, 334–358, 427–440
Savage, Jay M., see Guyer, Craig, and —
Sceloporus, 61
grammicus, 334–358
Schaefer, Scott A., and George V. Lauder, Historical transformation of functional design: Evolutionary morphology of feeding mechanisms in loricarioid catfishes, 489–508
Scolopacidae, 400–413, 490, 491, 507
Scoloplax, 502
dicra, 491, 492, 507
Sebastodes, 181
Seberg, Ole, A critique of the theory and methods of panbiogeography, 369–380
Sehnenplatte, 544, 545, 547
Semicossyphus, 181
Semiurus, 509, 522–525, 528
Sexual dimorphism,
rhesus macaque, 381–399
Shaffer, H. Bradley, Utility of quantitative genetic parameters in character weighting, 124–134
Shao, Kwang-Tsao, and Robert R. Sokal, Significance tests of consensus indices, 582–590
Shape, 204–223, 359–368
Shell, 204–223
Shikamainosorex, 160
Shorebird, 400–413
Shrews, 153–162
Sicydium plumieri, 636
Significance table, 582–590

Significance tests of consensus indices, Kwang-Tsao Shao and Robert R. Sokal, 582–590
Silversides, 176–194
Siredon, 129
Sites, Jack W., Jr., see Porter, Calvin A., and —
Size, 81–99, 204–223, 359–368
Size and phylogeny in hominoid primates, Norman Creel, 81–99
Skulls, 81–99
Smith, Hobart M., and Gonzalo Pérez-Higareda, Nomenclatural name-forms, 421–422
Smouse, Peter E., Jeffrey C. Long, and Robert R. Sokal, Multiple regression and correlation extensions of the Mantel test of matrix correspondence, 627–632
Snail, 204–223
Sneath, P. H. A., Estimating uncertainty in evolutionary trees from Manhattan-distance triads, 470–488
Sober, Elliott, see Felsenstein, Joseph, and —
Sokal, Robert R., see Oden, Neal L., and —
Sokal, Robert R., see Shao, Kwang-Tsao, and —
Sokal, Robert R., see Smouse, Peter E., —
Somateria, 458–460
Somers, Keith M., Multivariate allometry and removal of size with principal components analysis, 359–368
Somniosus, 181
Sorex, 153, 160
  araneus, 154, 156–158, 162, 163
  arizonae, 154, 156–158, 162
  cinereus, 154, 156–158, 162
Soricidae, 153–162, 236
Soriculus, 153, 154
South America, 195–203, 458–469
Spalacidae, 236
Spalax, 236
  ehrenbergi, 239
Spatial correlograms, 608–616
Speciation, 46–67
Speciose and depauperate phylads and tests of punctuated and gradual evolution: Fact or artifact?, Richard L. Mayden, 591–602
Spermophilus, 236
  townsendii, 239
Sphincterochila
  candidissima, 206, 215
  cariosula, 215
Squalus, 181
  acanthias, 240
Steamer-ducks, 458–469
Stenostoma phenops, 421
Stereochilus, 533, 546
Sternopygus macrurus, 507
Stethaprion erythrops, 507
Stictonetta, 460
Struthia camelus, 481
Struthio camelus, 239
Sturnira lilium, 197–201
Sturnus vulgaris, 240
Sullivan, Robert M., see Best, Troy L., —
Suncus, 236
  murinus, 154, 156–158, 162, 239
Sus, 236
  scrofa, 239
Sympatric isolation, 163–175
Symposium: Character weighting, cladistics, and classification, Vicki A. Funk and Quentin D. Wheeler, 100–101
Synastrapotherium, 187
Synbranchidae, 634
Systematics, 273–282, 283–296, 571–581
Systematics and evolution of western North American frogs allied to *Rana aurora* and *Rana boylii*: Electrophoretic evidence, David M. Green, 283–296
Systematics and evolution of western North American frogs allied to *Rana aurora* and *Rana boylii*: Karyological evidence, David M. Green, 273–282

Tachyeres, 458–469
  brachypterus, 458, 460–462, 465
  leucocephalus, 458, 460–462, 465, 466
  patachonicus, 458, 460–466, 468
  pteneres, 458, 460–462, 464–466
Tachyglossus aculeatus, 239
Tadorna, 459
Talpa, 236, 237
  europaea, 239
Talpidae, 236
Tapiridae, 236
Tapirus, 236
  indicus, 239
  terrestris, 239
Tarsius, 236
  bancanus, 239
Taurotragus oryx, 239
Taxonomic difference between the Caminalcules and real organisms, a, Eric W. Holman, 259–261
Taxonomy of parthenogenetic species of hybrid origin: Cloned hybrid populations of *Cnemidophorus* (Sauria: Teiidae), the, James M. Walker, 427–440
Teiidae, 427–440
Telford, Malcolm, and Rich Mooi, Echinoderms, Babel and the confusion of nomenclature, 254–255
Teragawa, Carolyn, see Nijhout, H. Frederik, —
Thamnophis
  cyrtopsis, 421, 422
  eques, 421
Theba pisana, 208, 210, 215–217
Thermodynamics, 22–36
Theropithecus, 236
  gelada, 239
Thorius, 533
Tilia, 186
Tonatia silvicola, 197–200
Tongue evolution in the lungless salamanders, Family Plethodontidae IV. Phylogeny of plethodontid salamanders and the evolution of feeding dynamics, R. Eric Lombard and David B. Wake, 532–551
Trachops cirrhosus, 197–199
Trachydosaurus rugosus, 240
Tragelaphus strepsiceros, 239
Tree-reconstruction methods, 68–80

Tribolodon, 594
Trichechus inunguis, 239
Trichomycteridae, 490, 491, 505, 507
Trichomycterus, 493
  oroyae, 507
Trochoidea
  ebusitana, 215
  gestroi, 215
  limbata, 215
  seetzeni, 217
  simulata, 215, 217
  syrensis, 215
Truncorotaloides, 184
Tsuga, 187
Tupaia, 236
  glis, 239, 485
Tupinambis teguixin, 240
Turdus ericetorum, 209
Tursiops, 236
  truncatus, 239
Typhlomolge, 533, 546
Typhlotriton, 533
Tyrrheniberus villica, 215

Ulmus, 186
Univariate statistics, 195–203
UPGMA cluster analysis, 153–162
Ursidae, 237, 239
Ursus
  arctos, 239
  maritimus, 239
Use of logarithms to accommodate scale, on, Edwin H. Bryant, 552–559
Utility of quantitative genetic parameters in character weighting, H. Bradley Shaffer, 124–134
Uzzell, Thomas, and Thomas J. Post, *Rana temporaria* is not a member of the *Rana boylii* group, 414–421

Vampyrops lineatus, 197–201
Varanus varanus, 240
Variation in land-snail shell form and size and its causes: A review, Glenn A. Goodfriend, 204–223
Vicariance biogeography, 176–194, 369–380
Vipera aspis, 240
Vocalization, 400–413

Wake, David B., see Lombard, R. Eric, and —
Walker, James M., The taxonomy of parthenogenetic species of hybrid origin: Cloned hybrid populations of *Cnemidophorus* (Sauria: Teiidae), 427–440
Western North America, 273–282, 283–296
Wheeler, Quentin D., Character weighting and cladistic analysis, 102–109
Wheeler, Quentin D., see Funk, Vicki A., and —
White, Brian N., The isthmian link, antitropicality and American biogeography: Distributional history of the Antherinopsinae (Pisces: Atherinidae), 176–194
Why are there so many kinds of passerine birds?, Robert J. Raikow, 255–259
Wicken, J. S., 640–647
Wicken, Jeffrey S., Entropy and evolution: Ground rules for discourse, 22–36
Wiley, E. O., and Diedel Kornet, review by, 262–265
Wiley, E. O., see Brooks, Daniel R., —
Willig, Michael R., Robert D. Owen, and Randall L. Colbert, Assessment of morphometric variation in natural populations: The inadequacy of the univariate approach, 195–203
Wray, Gregory A., see Nijhout, H. Frederik, —

Xantusia, 37, 39–43
Xantusiidae, 37–45
Xenopus laevis, 240
Xeropicta ilanae, 215
Xiphophorus
  helleri, 637
  maculatus, 637

Yates, Terry L., see Best, Troy L., —
Yucca, 348

Zacco platypus, 507
Zalophus, 237
  californianus, 239
Zebrina detrita, 206